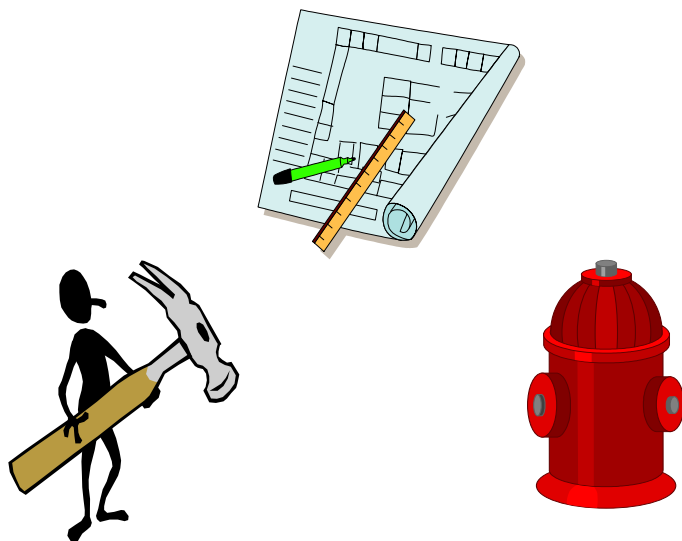


# **FIRE AND LIFE SAFETY IN LOCAL JUVENILE AND ADULT DETENTION FACILITIES**



## Regulations and Guidelines for Construction of Detention Facilities



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# STATE FIRE MARSHAL REGULATIONS AND GUIDELINES

These guidelines have been prepared for the purpose of establishing a quick reference and explanation of the minimum building standards for the prevention of fire and for the protection of life and property against fire and panic within adult and juvenile facilities. The format delineates the regulations exactly as they appear in Code, (including spelling errors and incorrect references). The guideline follows the printed regulations text giving direction and SFM policy on the application of the regulation.

The State of California has adopted specific regulations relating to detention facilities. These regulations are contained in Appendix Chapter 3A (AC3A), Division II, Title 24, California Building Code (CBC). The regulations have been adopted by the State Fire Marshal (SFM) and are frequently referred to as “The State Fire Marshal’s regulations.”

The regulations contained in AC3A work in conjunction with regulations contained in other sections of the CBC, California Electrical Code (CEC) and California Mechanical Code (CMC). In fact, AC3A in many instances refers to other sections of the CBC, CEC and CMC. In addition, the requirements contained in Title 19, California Code of Regulations (CCR), are used for maintenance and service of fire protection systems and equipment, such as automatic fire sprinklers, and for the location and placement of portable fire extinguishers.

The regulations contained in AC3A apply to both adult and juvenile facilities. However, there is a difference in the occupancy classification of some adult and juvenile facilities, which do not practice restraint as defined: (i.e., which do not lock doors or otherwise restrain persons in the building).

This document is not intended as a replacement of state codes relating to fire and life safety in the construction of adult and juvenile detention facilities. This is **not** a legal document. Rather, it is designed as an easy reference tool.

## CLASSIFYING YOUR FACILITY

### **SECTION 308 – REQUIREMENTS FOR GROUP I OCCUPANCIES**

**308.1 Group I Occupancies Defined.** Group I Occupancies shall be:

**Division 1.1** Nurseries for the full-time care of children under the age of six (each accommodating more than five children), *[for SFM] six children*).

Hospitals, sanitariums, nursing homes with non-ambulatory patients *[for SFM] where medical care is provided, or homes with non-ambulatory guests where medical care is provided*, and similar buildings (each accommodating more than five patients *[for SFM] six patients*).

**Division 1.2** Health-care centers for ambulatory patients receiving outpatient medical care that may render the patient incapable of unassisted self-preservation (each tenant space accommodating more than five such patients).

**Division 2** Nursing home for ambulatory patients *[for SFM] where medical care is provided*, homes for *ambulatory* children six years of age or over *where medical care is provided*, or homes with ambulatory guests where medical care is provided, and similar buildings, and honor farms and conservation camps housing inmates who are not restrained (each accommodating more than five patients or children *[for SFM] six patients or children*).

**Division 3** Mental hospitals, mental sanitariums, jails, prisons, reformatories and buildings where personal liberties of inmates are similarly restrained. *[For SFM] Restraint shall not be permitted in any building except in Group I, Division 3 Occupancies constructed for such use in accordance with the provision of this chapter.*

**Guideline:** Adult and juvenile facilities where restraint (as defined in Section 323A, AC3A) is practiced will be classified as Group I, Division 3 Occupancies. Honor farms and conversation camps, where inmates or children are not restrained, will be classified as Group I Division 2 Occupancies. Other detention facilities where adults or children are not restrained will be classified as Group I, Division 2 Occupancies.

Work furlough facilities, and facilities for the treatment of alcoholism and drug abuse, where inmates are not restrained, may be classified as Group R, Division 6 under AC3A.

## **R - Occupancy**

The R-6 Occupancy category includes some detention facilities as well as various other occupancies. Detention facilities included in this category are generally limited to community correctional centers, community correctional re-entry centers and work furlough facilities. These guidelines are limited to and focus on detention facilities only to the exclusion of other occupancies.

**Guideline: Group R, Division 6 Occupancies (as related to detention) include facilities such as halfway houses, community correctional centers, work furlough facilities, and alcoholism or drug abuse recovery and treatment facilities. Restraint is specifically prohibited in R-6 Occupancies. Standards for these Occupancies were adopted with the specific intention of requiring less restrictive standards than Group I Occupancies.**

## **SECTION 313A – GENERAL**

**313a.1 Purpose.** The purpose of this division is to provide minimum standards of safety for group care facilities.

### **313A.2 Scope.**

**313A.2.1 General.** The provisions of this division shall apply to buildings or portions thereof that are to be used for Group R, Division 6 Occupancies.

**316A.2 Mixed Occupancies.** Group R, Division 6 Occupancies shall be separated from Group H Occupancies by a four-hour fire-resistive occupancy separation and shall be separated from all other occupancies by a one-hour fire-resistive occupancy separation.

EXCEPTION: 1. An occupancy separation need not be provided between any Group R, Division 6 Occupancy and a carport having no enclosed uses above, provided the carport is entirely open on two or more sides.

2. The one-hour occupancy separation between a Group R, Division 6 Occupancy and Group M, Division 1 Occupancy may be limited to the installation of materials approved for one-hour fire assembly. Fire dampers need not be installed in air ducts passing through the wall, floor or ceiling separating a Group R, Division 6 Occupancy from a Group M Occupancy are constructed of steel having a thickness not less than 0.019 inch (0.48 mm) No. 26 galvanized sheet gauge and have no openings into the Group M Occupancy.

## **SECTION 314A – APPLICABILITY OF OTHER PROVISIONS**

Except as specifically required by this division, Group R, Division 6 Occupancies shall meet all applicable provisions of this code pertaining to Group R, Division 1 Occupancies.

**Guideline:** Group R-1 Occupancies are hotels and apartment houses. Therefore, R-6.2 Occupancies must meet construction standards for Group R-1 Occupancies as delineated in Section 310, et al.

## **SECTION 315A – DEFINITIONS**

For the purpose of this division, certain terms are defined as follows:

**GROUP R, DIVISION 6 OCCUPANCIES** shall be residential group care facilities which provide care and/or supervisory services. Restraint shall not be practiced in these facilities.

Such residential group care facilities are limited to halfway houses such as community correctional centers, community correction re-entry centers, community treatment programs, work furlough programs, and alcoholism or drug abuse recovery or treatment facilities.

**GROUP R, DIVISION 6.1 OCCUPANCIES** are those Division 6 Occupancies with more than six non-ambulatory residents.

**GROUP R, DIVISION 6.2 OCCUPANCIES** are those Division 6 Occupancies with more than six ambulatory residents.

**GROUP R, DIVISION 6.1A OCCUPANCIES** are those Division 6 Occupancies with six or less non-ambulatory residents.

**GROUP R, DIVISION 6.2A OCCUPANCIES** are those Division 6 Occupancies with six or less ambulatory residents.

**Guideline:** As a general rule work furlough facilities and drug abuse and alcohol recovery and treatment facilities will be classified as Group R-6.2 Occupancies.

## **SECTION 316A – CONSTRUCTION, HEIGHT AND ALLOWABLE AREA**

**316A.1 General.** Buildings or parts of buildings classed in Group R, Division 6 shall not exceed the limits of area, height and type of construction as specified for the following occupancies:

Group R, Division 6.1-Group I, Division 1.1 Occupancies

Group R, Division 6.2-Group R, Division 1 Occupancies

Group R, Division 6.1A-Group R, Division 3 Occupancies

Group R, Division 6.2A-Group R, Division 3 Occupancies

### **EXCEPTIONS:**

1. Buildings housing non-ambulatory persons above the first floor shall be constructed of not less than Type V One-hour fire-resistive construction throughout..
2. Buildings which exceed two stories in height or when individual floor areas exceed 3,000 square feet (279 m<sup>2</sup>), shall be constructed of not less than Type V One-hour fire-resistive construction throughout.

**Guideline:** Note that group R-6.2 Occupancies must meet the construction requirements of R-1 Occupancies. Also note Exception #2.

## **SECTION 317A – LOCATION ON PROPERTY**

Exterior walls located less than 3 feet (914 mm) from property lines shall be of one-hour fire-resistive construction. Openings shall not be permitted in exterior walls located less than 3 feet (914 mm) from property lines. For other requirements, see Section 503.

## **SECTION 318A – MEANS OF EGRESS AND EMERGENCY ESCAPES**

**318A.1 General.** Group R, Division 6 Occupancies shall be provided with a means of egress as required by this section and Chapter 10 of this code.

**EXCEPTION:** Alcoholism or drug abuse recovery or treatment facilities, halfway houses operated by the California Department of Corrections and similar facilities housing residents, none of whom are physically or mentally handicapped, or non-ambulatory may have a means of egress as required for Group R, Division 1 Occupancies.

### **318A.2 Exits Required.**

**318A.2.1 Number of exits.** Group R, Division 6.1 Occupancies housing non-ambulatory residents shall be provided with direct exiting from sleeping rooms housing non-ambulatory clients or two separate means of egress exit connected by an exit corridor constructed in accordance with the provisions of Section 1004.3.4.

**318A.2.2** Group R, Division 6.2A Occupancies housing residents, none of whom are physically or mentally handicapped, or non-ambulatory may have a means of egress as required for Group R, Division 3 Occupancies.

### **318A.3 Corridors and Hallways.**

**318A.3.1 Width.** The width of corridors and hallways shall be determined as specified in Section 1004.3.4.2.

**318A.3.2 Construction.** Walls of corridors and hallways serving Group R, Division 6 Occupancies shall be constructed of fire-resistive materials as specified in Section 1004.3.4.3.1

#### **EXCEPTIONS:**

1. Corridors and hallways are serving an occupant load of 10 or less may be constructed in accordance with the provisions of Section 1004.3.3.
2. Corridors and hallways serving resident sleeping areas provided with direct or semi-direct exiting may be constructed in accordance with the provisions of Section 1004.3.3.

**Guideline:** Exits, as a general rule, must be provided as required for Group R-1 Occupancies (hotels & apartment houses). See chapter 10, CBC, and specifically, Section 1007.6.

**318A.3.3 Openings.** Where corridor and hallway walls are required to be of fire-resistive construction, openings shall be protected as per Section 1004.3.4.3.2 of this code.

**318A.4 Stairways.** Stairways shall be constructed as required by Section 1003.3.3 of this code.

**EXCEPTION:** In buildings that are converted to a Group R, Division 6 Occupancy, existing stairways may have an 8-inch-maximum (203 mm) rise, 9-inch-minimum (229 mm) run and may be 30 inches (762 mm) in width.

**318A.5 Ramps.** Group R, Division 6 Occupancies housing non-ambulatory residents shall have access to a ramp leading from the first story to the exterior of the building at the ground floor level.

**318A.6 Emergency Exit Illumination.** In the event of power failure, exit illumination shall be automatically provided from an emergency system. Emergency systems shall be supplied from storage batteries or an on-site generator set and the system shall be installed in accordance with the requirements of the Electrical Code.

**EXCEPTION:** Facilities which house 10 or less residents need not provide emergency illumination.

**318A.7 Emergency Escape.** Every sleeping room shall be provided with emergency escape or rescue facilities as required by Section 310.4 of this code.

EXCEPTION: Existing facilities having emergency escape installations acceptable to the authority having jurisdiction.

**318A.8 Yards and Courts.** Yards and courts shall be specified in Section 1203.4.

**318A.9 Automatic Sprinkler Systems.**

**318A.9.1** An automatic sprinkler system which complies with Chapter 9 shall be provided in Group R, Division 6.1 Occupancies.

**318A.9.2** An automatic sprinkler system which complies with Chapter 9 shall be provided in Group R, Division 6 Occupancies which house non-ambulatory persons above the first floor.

**SECTION 319A – SHAFT ENCLOSURES**

Exits shall be enclosed as specified in Chapter 10 for Group R, Division 1 Occupancies.

Elevator shafts, vent shafts, dumbwaiter shafts, clothes chutes and other vertical openings shall be enclosed and the enclosure shall be as specified in Section 711.

**SECTION 320A – FIRE ALARM SYSTEMS**

**320A.1** Group R, Division 6 Occupancies shall be provided with smoke detectors as required by Section 310.9.1. An approved automatic fire alarm system which responds to products of combustion shall be provided in Group R, Divisions 6.1 and 6.2 Occupancies as required for Group R, Division 1 Occupancies.

EXCEPTION:

1. Group R, Division 6.2 Occupancies housing persons none of whom are physically or mentally handicapped or non-ambulatory and which provide supervisory services such as alcoholism or drug abuse recovery or treatment facilities, halfway houses operated by the California Department of Corrections, and similar facilities.
2. Group R, Division 6 Occupancies provided with an automatic sprinkler system which complies with Chapter 9.

**320A.2** When an automatic fire alarm system is not required, a manual pull station conforming to the California Electrical Code shall be provided at a location approved by the authority having jurisdiction. Such pull station shall actuate a distinctive fire alarm signal which shall be audible throughout the facility. These devices need not be interconnected to any other fire alarm device, electrically supervised or provided with a secondary power source.



**320A.3** Group R, Division 6 Occupancies which house persons who are hearing impaired shall be provided with notification appliances for the hearing impaired installed in accordance with NFPA 72G and which shall operate upon initiation or either an automatic fire alarm system or the smoke detectors required by Section 310.9.1.

**Guideline:** Section 310.9.1 referenced above provides that single station smoke detectors must be provided in each sleeping room and in the corridor or area giving access to the sleeping room. In addition, a manual pull station must be provided when an automatic fire alarm system is not required.

Exception #1 provides that Group R-6.2 Occupancies need not be provided with an automatic fire alarm system when the facility does not house physically or mentally handicapped persons.

Exception #2 provides that an automatic fire alarm system is not required when any R-6 Occupancy is protected by an automatic sprinkler system.

## **SECTION 321A – LOCAL AMENDMENTS**

The provisions of this appendix shall apply uniformly throughout the state, and no county, city, city and county, or district shall adopt or enforce any ordinance or local rule or regulation relating to fire and panic safety in buildings or structures subject to the provisions of this appendix, which is inconsistent with the provisions of this appendix, building standards published in the State Building Standards Code relating to fire and panic safety, or the other regulations adopted by the State Fire Marshal pursuant to Health and Safety Code Section 13143.6.

**Guideline:** The regulations adopted by the State Fire Marshal relating to R-6 Occupancies are pre-emptive and no governmental agencies may adopt or enforce any rule or regulation which is inconsistent with the State Fire Marshals regulations.

## **DIVISION II – DETENTION AND CORRECTIONAL FACILITIES**

### **SECTION 322A – SCOPE**

**322A.1 Scope** The provisions of this appendix apply to the design and construction of Group I, Division 3 Occupancies (prisons, jails reformatories and other detention facilities). Except as provided in this appendix, the appropriate chapters of the California Building Code shall be used in the design and construction of detention facilities.

**Guideline:** It is important to recognize that Division II of AC3A only applies to facilities which are classified Group I, Division 3 (i.e., where inmates are restrained). If inmates are not restrained, other less restrictive provisions of the CBC may apply.

## **SECTION 323A – DEFINITIONS**

**For the purpose of the chapter, certain items are defined as follows:**

**CELL** is a housing unit in a detention or correctional facility for the confinement of not more than two inmates or prisoners.

**CELL COMPLEX** is a cluster or group of cells in a jail, prison or other detention facility, together with rooms used for accessory purposes, all of which open into the cell complex and are used for functions such as dining, counseling, exercise, classrooms, sick call, visiting, storage, staff offices, control rooms or similar functions, and interconnecting corridors all within the cell complex.

**CELL TIERS** are cells, dormitories and accessory spaces. Cell tiers are located one level above the other, and do not exceed two levels per floor. A cell tier shall not be considered a story or mezzanine.

**Guideline:** This definition is not intended to allow dining, dayroom, exercise and other similar activities on upper cell tier levels without fire resistive separation. When such spaces occur they shall be separated as required for a vertical shaft as delineated in Table 6A, CBC.

Spaces used for activities such as Visiting; Control; Medical/Sick Call; janitors and storage rooms, less than 100 square feet, may be located on upper cell tier levels without fire resistive separation provided such spaces are utilized only by inmates housed within the cell complex where the spaces occur.

**DAY ROOM** is a room which is adjacent to a cell, or cell tier, or dormitory and which is used as a dining, exercise or other activity room for inmates.

**DORMITORY** is an area occupied by no less than three inmates.

**HOLDING FACILITY** means a detention or correctional facility or area where inmates, staff and public are not housed but are restrained (housing unit is an area intended to lodge inmates on a 24-hour basis where accommodations are provided for sleeping).

**RESTRAINT** shall mean the physical retention of a person within a room, cell or holding facility by any means, or within a building by means of locked doors.

## **SECTION 324A – CONSTRUCTION**

**324A.1 General.** Except as provided in this appendix chapter, buildings shall be constructed in accordance with the provisions of this code.

**Guideline:** In general, the construction provisions for detention facilities can be found in Chapters 3 through 10 of the CBC.

**324A.2 Exception To Table 6-A.** Regardless of the provisions of Table 6-A, nonbearing cell or dormitory walls within cell complexes may be of non-fire-rated, noncombustible construction, provided the cell complex is separated from all other areas of the building, including corridors which connect to the cell complex by construction and opening protection as required for exit corridors. The open space in front of a cell tier not exceeding two tiers in height in detention or correction facilities shall not be considered a vertical shaft and need not meet the fire-resistive shaft enclosure requirements of Section 711.

**Guideline:** The first sentence of this section clarifies that cell and dormitory walls may be of non-fire-rated, non-combustible construction when they are nonbearing. This facilitates the construction of cell tiers. However, this section should not be construed to mean cell walls, which are part of a required one-hour corridor are not required to be fire resistive.

Table 6-A provides that vertical shafts must be enclosed with fire resistive construction. The second sentence of this section provides, implicitly, that the space in front of cell tiers shall not be considered a vertical shaft and, therefore, does not require enclosure. Provided however, that the cell tier meets the definition of cell tier delineated in Section 323A.

**324A.3** In buildings protect throughout by an automatic sprinkler and automatic fire alarm system, corridor doors or walls of cells and dormitories, may be of open bars, perforated metal, grilles, or other similar construction.

**Guideline:** In the past, some fire and building authorities have interpreted this section to mean that open barred doors could not be used except in conjunction with open barred walls. The section has been clarified to provide that open barred walls and open barred doors may be used individually or in conjunction with each other.

**324A.4 SPECIAL PROVISIONS.** Rooms occupied by inmates whose personal liberties are restrained shall have noncombustible floor surfaces.

EXCEPTION: Noncombustible floor surfaces may have carpet or other floor covering materials applied in areas protected by an automatic sprinkler system and meeting ASTM Standard E 648, 1993 edition, and having a smoke density rating of less than 450 per ASTM Standard E 84, 1991 edition. The carpeting and carpet padding shall be tested as a unit in accordance with the Floor Covering Radiant Panel Test meeting Class I and has a critical radiant flux limit of not less than 0.45 watt per centimeter square. The carpeting and padding shall be identified by a hang-tag or other suitable method as to manufacturer and style and shall indicate the classification of the material based on the limits set forth above.

- Guideline:** If inmates are restrained in a room in any manner, the room must have a noncombustible floor surface. However, the exception provides that the noncombustible surface may have carpet or other floor covering materials applied over it if:
1. the room is protected by automatic sprinklers; and
  2. the floor covering material is rated Class I by the Radiant Panel test; and
  3. the smoke density rating does not exceed 450.
  4. when carpet is used in conjunction with a pad, the carpet and padding shall be tested as a unit.
  5. carpet or other floor covering may not be used in rooms or areas not directly protected by automatic sprinklers as permitted by Section 329A.

## **SECTION 325A – COMPARTMENTATION**

Every story of housing units with cell complexes having an occupant load of more than 50 inmates in a detention or correctional facility shall be divided into not less than two approximately equal compartments by a smoke barrier wall of one-hour construction, designed in accordance with Section 308.2. Housing units where cell complexes are connected may be divided by a smoke barrier at the connection or at the connection to corridors leading to other cell complexes. No smoke compartment shall exceed 22,500 square feet (2090m<sup>2</sup>). Cell complexes less than 22,500 square feet (2090m<sup>2</sup>), but having an occupant load of more than 50 inmates shall be divided into not less than two approximately equal compartments by a smoke barrier wall.

### **EXCEPTIONS:**

1. In Type I or II FR buildings protected with an automatic sprinkler system throughout.
2. In holding facilities.
3. Spaces having direct exits from the cell complex to an immediate area having at least 50 feet (15240mm) of open space from the exterior of the building conforming to section 333A.1

**Guideline:** This section provides a basic code requirement for smoke compartmentalization in detention facilities, that are built of construction other than Type I or II FR, and that are without direct exits to the exterior where inmates can be relocated at least 50feet from the building. When a building is less than 22,500 square feet in area, it shall be divided into two compartments of approximately equal size. The three exceptions eliminate the requirement for smoke compartments for most detention facilities.

## **SECTION 326A – OCCUPANCY SEPARATIONS**

**326A.1** Regardless of the provisions of Table 3-B, a two-hour fire-resistive occupancy separation as set forth in Section 302.3, may be used between a Group I, Division 3 Occupancy and a Group S, Division 3 Occupancy used only for the parking of vehicles used to transport inmates or prisoners provided no repair work or fueling is performed.

EXCEPTIONS:

1. Such occupancy separations need not be provided unless the Group S, Division 3 Occupancy area is enclosed with both surrounding walls and a solid roof which covers more than one-third of the area; or
2. Where one-third of the wall area of the surrounding walls is open. These openings must be concentrated at the upper 50 percent of each wall.

**Guideline:** This section of the code refers to the vehicle sally port areas at detention facilities. Table 3-B that is referenced in this section requires a four-hour fire resistive separation between parking garages and detention areas (S-3/I-3). This section permits a two-hour fire resistive separation between detention areas and vehicle parking garages used only for the parking of vehicles that transport inmates or prisoners. Fire resistive assemblies having at least a one and one-half hour rating shall protect all openings in two-hour fire resistive separations. However, repair work or fueling cannot be performed in the parking area.

If the S-3 occupancy is enclosed with surrounding walls and a roof that covers 1/3 or more of the roof area, a 2-hour occupancy separation must be provided. When the S-3 occupancy is enclosed by a solid roof area but 1/3 of the surrounding wall area is open and the openings are concentrated in the upper 50% of each wall an occupancy separation is not required.

**326A.2** Regardless of the provisions of Table 3-B, a one hour fire-resistive occupancy separation as set forth in section 302.3 shall be used in kitchens where commercial/institutional cooking equipment is used, laundry rooms where commercial/institutional laundry equipment is used and storerooms exceeding 100 square feet (9.3m<sup>2</sup>).

EXCEPTIONS:

1. Rooms containing rethermalization equipment and residential and domestic-type cooking equipment.
2. Kitchens contiguous to the dining/activity area need not be individually separated from the dining/activity area provided the kitchen and dining/activity area is separated as a unit from the rest of the building.

**Guideline:** Table 3-B that is referenced in this section provides for a two-hour fire resistive occupancy separation between a kitchen, laundry room, and storerooms and the rest of the detention area (I-3/B). This section provides specific requirements for these areas. Instead of a two-hour fire resistive occupancy separation, a one-hour fire resistive occupancy separation can be used. Fire resistive assemblies having at least a one-hour rating must protect openings in the fire resistive separation.

**Exception 1** provides that kitchen areas that utilize only rethermalization equipment or residential/domestic type cooking equipment do not require a fire resistive occupancy separation.

**Exception 2** provides flexibility for the designer by permitting a kitchen and dining room to be separated together as a unit rather than separating the kitchen as a unit itself.

It should also be noted that storerooms 100 square feet or less in area do not require a fire resistive occupancy separation.

**326A.3** Regardless of the provisions of Table 3-B, classrooms, multipurpose rooms and conference rooms within the restraint area inside the building need not be separated.

**Guideline:** Table 3-B that is referenced in this Section requires either a one-hour or two-hour fire resistive occupancy separation. The section provides specific relief for detention facilities. Classrooms, multipurpose rooms and conference rooms that are within the restraint area in the facility need not be separated by a fire resistive occupancy separation. However, prisoner docks must be protected by an automatic fire alarm and automatic fire sprinklers if otherwise required.

**326A.4** Prisoner docks directly accessory to courtrooms need not be separated from a courtroom for the purpose of occupancy separation only.

**Guideline:** Prisoner docks that are within a courtroom or docks for disruptive prisoners that have a common wall with the courtroom need not be separated by an occupancy separation.

## **SECTION 327A – GLAZING**

**327A.1 Windows.** In security areas within cell complexes sprinklered throughout, the area of glazing in one-hour corridor walls and smoke barrier walls shall not be restricted, provided:

1. All openings are protected by fixed glazing listed and labeled for a fire-protection of at least three-fourths hour in accordance with section 713.9; or
2. Fixed security glazing set in noncombustible frames. Other products may be approved under an alternate means of protection as specified under section 104.2.8.
3. In lieu of the sizes set forth in section 1004.3.4.3.2.2, the size and area of glazed assemblies shall conform to the following:

Windows required to have a three-fourths-hour fire-resistive rating or windows protected by fixed security glazing, as delineated in Items 1 and 2 above, may have an area not greater than 84 square feet (7.8m<sup>2</sup>) with neither width nor height exceeding 12 feet (3658mm).

**Guideline:** This section applies only to security areas within cell complexes that are protected by automatic sprinklers. The intent of this section is to recognize that unrestricted viewing of the cell complex is not only good security but also good fire protection since fires can be discovered in their incipient stage.

This section provides that the area of glazing in one-hour fire resistive corridors within staff control areas of cell complexes and smoke barrier walls shall not be restricted provided one of the two following conditions is met:

1. All openings in required one-hour corridor walls must be protected by fixed glazing with a fire rating of at least three-fourths hours, or;
2. Openings must be protected by fixed glazing set in noncombustible frames. The fixed glazing must be strong enough to ensure that deflection from impact or other means will not cause the glazing to shatter, break or fall from the frame. Fixed glazing is necessary to retard the movement of smoke and gases.
3. Windows, whether fire rated or fixed glazing, are permitted to be of a size that does not exceed 84 square feet with neither width nor height exceeding 12 feet. This condition is more liberal in detention facilities than in other occupancies. Openings in other corridor walls within cell complexes, when the corridors are not directly related to staff control areas, shall be protected by fixed glazing rated not less than three-fourths hour fire resistive, or 1/3 hour fire rated doors.

**327A.2 Doors** In lieu of the sizes set forth in Section 713.7, the size and area of glazed assemblies shall conform to the following:

Glazed openings in three-hour-rated fire doors shall be three-hour rated assemblies and shall be limited to 100 square inches (64516mm<sup>2</sup>) with a minimum dimension of 4 inches (102mm).

The area of glazed openings in a fire door required to have one and one-half hour or one-hour fire-resistive rating shall be limited to 100 square inches (64516mm<sup>2</sup>) with a minimum dimension of 4 inches (102mm). When both leaves of a pair of doors have observation panels, the total area of the glazed openings shall not exceed 100 square inches (64516mm<sup>2</sup>) for each leaf.

Glazed openings shall be limited to 1296 square inches (836127mm<sup>2</sup>) in wood and plastic-faced composite or hollow metal doors, when fire-resistive assemblies are required to have a three-fourths-hour fire-resistive rating.

**Guideline:** It should be noted that 100 square inches of glazing is permitted in a three-hour rated door in detention facilities and is not permitted in other occupancies.

## **SECTION 328A – ELECTRICAL**

Special electrical systems, exit illumination, power installations and alternate on-site electrical supplies shall be provided for every building or portion of a building housing 10 or more inmates in a detention or correctional facility in accordance with the provisions of the California Electrical Code. There shall be a source of emergency power in all detention facilities capable of providing minimal lighting in all housing units, activity areas, corridors, stairs and central control points, and to maintain fire and life safety, security, communications, and alarm systems. Such an emergency power source shall conform to the requirements specified in Title 24, Part 3, Article 700, California Electrical Code. Smoke management systems, when required, shall conform to Title 24, Part 3, Article 701, California Electrical Code.

**Guideline:** All exits must be adequately illuminated. In addition, emergency power must be sufficient to provide minimal lighting in those areas delineated. Further, the automatic and manual fire alarm systems must be on emergency power. Emergency power may be provided by batteries or generator, and shall provide a minimum two-hour power supply when generators are used and one and one-half hour power supply when batteries are used.

## **SECTION 329A – AUTOMATIC SPRINKLER AND STANDPIPE SYSTEMS**

**329A.1 General.** Every building, or portion thereof; where inmates are restrained, shall be protected by an automatic sprinkler system conforming to NFPA 13. The main sprinkler control valve or valves and all other control valves in the system shall be locked in the open position and electrically supervised so that at least an audible and visual alarm will sound at a constantly attended location when valves are closed. The sprinkler branch piping serving cells may be embedded in the concrete construction.

EXCEPTION: Sprinklers are not required in cells housing two or fewer inmates and the building shall be considered sprinklered throughout when all of the following criteria are met:

1. Automatic fire sprinklers shall be mounted outside the cell a minimum of six feet (91829mm) on center and 12 inches (305mm) from the wall with quick response sprinkler heads. Where spacing permits, the head shall be centered over the cell door opening.
2. The maximum amount of combustibles, excluding linen and clothing, shall be maintained at three pounds per inmate.
3. Each individual housing cell shall be provided with a two-way inmate or sound-actuated audio monitoring system for communication directly to the control station serving the cell(s).
4. The provisions of the exception in Section 324A.4 shall not apply.



**Guideline:** This is the basic code section that provides the mandate that those buildings, or portions of buildings, where inmates are restrained be protected by an automatic sprinkler system. The system must be designed in accordance with NFPA (National Fire Protection Association Pamphlet 13) which is the standard adopted by the State Fire Marshal.

All sprinkler control valves must be locked in the open position and electrically supervised to ensure that valves cannot be accidentally closed and, thereby, keep the sprinkler system from functioning.

Sprinkler branch piping may be imbedded in the concrete construction to preclude the possibility of surface run piping being used in suicide attempts.

The exception provides a method whereby automatic sprinklers may be moved outside of cells. To install automatic fire sprinklers in this manner, all four criteria listed in the exception must be met.

**329A.2 Wet Standpipes.** Housing units within cell complexes where 50 or more inmates are restrained, shall be provided with Class II standpipes conforming to the provisions of Chapter 9 where required by table 9A. In addition, Class II wet standpipes shall be located so that it will not be necessary to extend hose lines through interlocking security doors and any doors in smoke-barrier walls, horizontal exit walls and area or occupancy separation walls. Standpipes located in cell complexes may be placed in secured pipe chases.

**Guideline:** Wet standpipes for fire fighting purposes are required in housing units in cell complexes when the complex houses 50 or more inmates. The standpipes must be located so that it will not be necessary to extend hose lines through the doors and walls delineated. To prevent tampering by inmates, standpipes may be installed in secured pipe chases.

This section does not require the installation of wet standpipes in areas where inmates are not housed on a 24-hour basis, such as holding cells, court holding facilities and similar areas.

**NOTE:** Wet standpipes are not required in an I-3 Occupancy that is protected throughout by automatic fire sprinklers and is less than 4 stories in height, see Table 9A, CBC.

**329A.3 Dry Standpipes.** Every detention or correctional facility shall be provided with a Class I standpipe in accordance with Chapter 9 and Table 9-A.

**EXCEPTION:** In lieu of dry standpipes, combined systems conforming to NFPA 14 may be used.

**Guideline:** Dry Class I standpipes are for fire department use. They provide a method whereby the fire department can pump water to the various building locations without the necessity of fire fighters physically carrying large diameter hose to fire fighting locations. Table 9A indicates when dry standpipes are required.

It is important to note that Class I dry standpipes are not required in buildings less than 4 stories in height that are protected by automatic sprinklers.

The exception to the code Section provides a method whereby the required dry standpipe system may be replaced with a combined system that utilizes some of the automatic fire sprinkler piping provided the system meets the standards within National Fire Protection Association pamphlet #14.

**329A.4** When acceptable to the fire authority having jurisdiction, fire department connections may be located inside all security walls or fences on the property.

**Guideline:** Fire department connections are utilized by the fire department to pump water into an automatic sprinkler system or dry standpipe system. The location of these connections is of vital importance and the decision on their location should always be made by the fire department having jurisdiction.

## **SECTION 330A – FIRE ALARM SYSTEMS**

**330A.1** Within every detention and correctional facility a State Fire Marshal-approved manual and automatic fire alarm system which responds to products of combustion other than heat shall be installed as set forth in the Fire Code and provided throughout all buildings for alerting staff. All components of the system shall be compatible in use and shall be listed by the State Fire Marshal.

A staff alerting fire alarm shall sound at all staff control stations on the floor of activation and an audible and visual signal shall be indicated on an annunciator at the facility control center upon activation of any automatic extinguishing system, automatic detection system, or any smoke detector or manual actuating or initiating device. In addition, where there are staff-control stations on the floor, an audible, visual and manual alarm shall be located in each staff control station.

Fire and trouble signals of fire alarm systems and water-flow and supervisory signals of extinguishing systems shall be annunciated in an area designated as the facility control center which shall be constantly attended by staff personnel. All such signals shall produce both an audible signal and visual display at the facility control center indicating the building, floor zone or other designated area from which the signal originated. The audible signal shall be distinctive from other signals.

For the purposes of annunciating the activation of any fire alarm or extinguishing system, zoning shall be in accordance with the following:

1. When the system serves more than one building, each building shall be considered as a separate zone.
2. Each floor shall be considered a separate zone.
3. Each cell complex shall be considered a separate zone.
4. Each section of a floor compartmented by smoke barrier walls shall be considered as a separate zone.

**Guideline:** Every detention facility must be equipped with both automatic and manual fire alarm systems. The automatic system must be a type that responds to products of combustion other than heat and shall cover all rooms and spaces in Group I, Division 3 Occupancies. The required systems are for the purpose of alerting staff not for the purpose of alerting inmates. Accordingly, audible devices and pull stations to be installed are not required in inmate housing areas except at staff stations or other staff areas.

**330A.2 Manual Fire Alarms.** Manual fire alarm boxes are permitted to be locked provided staff is present within the restraint area when occupied and have keys readily available to operate the boxes. Manual fire alarm boxes shall be located at staff control stations in lieu of being located in cell areas or within the path of exit.

**EXCEPTIONS:**

1. Unlocked manual fire alarm boxes may be located in a staff location provided the staff location is occupied when the building is occupied and has direct supervision of the sleeping area.
2. An electrically supervised, two-way voice communications system meeting the requirements of the standards listed in Chapter 35, providing communication between control point or staff control stations and a facility control center on the premises, may be substituted for the required manual pull stations when the secured area of a detention or correctional facility.

**Guideline:** This section recognizes that within security areas, fire alarm boxes are subject to tampering by inmates. Therefore, these devices may be locked or placed in locked enclosures. The section also specifically requires locating fire alarm boxes at staff control stations rather than in cell areas and paths of exit travel.

**Exception 2** provides that an electrically supervised two-way voice communication system may be substituted for manual fire alarm boxes if the system meets the standard listed in Chapter 35. The standard listed in Chapter 35 are those of the National Fire Protection Association as amended by the State Fire Marshal.

**330A.3 Smoke Detection.** A State Fire Marshal-approved smoke-detection system conforming to the California Fire Code Article 10, shall be installed.

**EXCEPTIONS:**

1. Heat detectors may be used in closets, unusable space under floor areas, storage rooms, bathrooms, attached garages, attics, kitchens, laundry rooms and rooms of similar use.
2. Other considerations for smoke detectors may be used to prevent damage or tampering or for other purposes provided the function of detecting any fire is fulfilled and the location of the detectors is such that the speed of detection will be equivalent to that provided by the spacing and location required in accordance with NFPA 72 as referenced in Chapter 35 of the California Building Code. This may include the location of detectors in return air ducts from cells, behind grilles or in other locations. Spot type, combination duct and open area smoke detectors may be used when located not more than 14 inches (356mm) from the return air grill. For initiation and annunciation purposes, these detectors may be combined in groups of four. The proposed equivalent performance of the design, however, must be approved by the fire authority having jurisdiction.

**Guideline:** This section requires that a smoke detection system be installed throughout the detention facility. The system required by this section is the same one as required by Section 330A.1 above.

**Exception 1 recognizes that certain areas are inappropriate for smoke detector use and permits the use of heat detectors. Most storage rooms must be provided with smoke detector coverage. Shower and bath areas may be inappropriate for smoke detector use and heat detectors may be installed at those locations.**

**Exception 2 recognizes that smoke detectors are subject to tampering and damage by inmates. Accordingly, in detention areas, alternative means of installation are permitted. Of particular importance is the ability to locate them not more than 14 inches from the return air grill in cell return air ducts. Other methods of protecting detectors are permitted when approved by the fire authority having jurisdiction. Detectors may be combined in groups of 4. For example two cells up and two cells down in a cell tier configuration.**

**When guards are provided for automatic detectors to prevent tampering, such guards shall meet the detector manufacturer and the Board of Corrections requirements.**

## **SECTION 331A – EXITS**

**331A.1 Number of Exits.** Regardless of the provisions of Table 10-A, in detention and correctional facilities a minimum of two means of egress shall be provided in all areas of restraint when the occupant load is more than 20.

EXCEPTION: Hospitals, gymnasiums, classrooms, multipurpose rooms conference rooms and dining rooms, within the restraint area, shall be classified as to the occupancy group they most nearly resemble and exits provided as required by Table 10-A whether the room is a restraint area or not.

The occupant load of any non-restraint area shall be determined by Table 10-A and classified as to the occupancy group it most nearly resembles and exits shall be provided as required by Section 1003.1.

**Guideline:** This section provides special, more liberal requirements for exits from rooms, dormitories, and cell areas in detention areas than is permitted for other occupancies. In general, two exits are not required until the occupant load exceeds 20. An exception is made for hospitals, gymnasiums, and other areas as delineated; generally, these areas are not required to have two exits until the occupant load exceeds 49.

**331A.2 Exception to Section 1005.3.3.** When the number and arrangement of exits meets the requirements of section 1004 through 1006, other stairways which occur within the secure area of the detention facility and are not used for required exiting but are used primarily for the movement of inmates and security staff need not extend to the exterior as required by Section 1005.3.3.4.

**Guideline:** This section provides that stairways, which are used primarily for the movement of inmates and security staff, are not required to extend to the exterior of the building. However, this exception may only be used when the number and arrangement of required exits meets all other requirements of the CBC. It should be noted that code Section 1005.3.3.4 referenced above is an error. The correct code reference should be 1005.3.3.3.

**331A.3 Stair Enclosures.** Exit stairways serving cell tiers within a cell complex need not be enclosed as required in Section 1005.3.3.2.

**Guideline:** Exit stairs that serve only cell tiers need not be enclosed. This provides for more unobstructed views of the cell complex and enhances fire safety as well as security.

**331A.4 Exits through Adjoining or Accessory Areas.** Exits from a room may open into an adjoining or intervening room or area, provided such adjoining room is accessory to the area served and provides a direct means of egress to an exit corridor, exit stairway, exterior exit, horizontal exit, exterior exit balcony or exit passageway.

EXCEPTIONS:

1. Exits are not to pass through kitchens, storerooms, restrooms, closets or spaces used for similar purposes.

2. The space in front of cells and dormitories normally called a day room and used for access to an exit way in a detention or correctional facility shall not be considered an adjoining or accessory area if individual cells or dormitories open directly into the space.

**331A.5 Exit signs and Exit Illumination.** Exit signs and exit illumination shall be in accordance with Chapter 10.

EXCEPTION: In areas of restraint, where inmates are housed, or held, exit signs shall not be required.

**Guideline:** Exit signs are not required in areas of restraint. However, exit illumination is required. See Section 1003.2.9 of the CBC for required intensity levels. Exit signs must be provided in detention areas outside the security perimeter and at exits used primarily by staff and or the public.

## **SECTION 332A – SECURITY DOORS**

**332A.1** Cell or room doors, which open into a required exit corridor within a cell complex, need not comply with section 1004.3.4.3.2.1. Doors which are required to be 45 minutes or higher shall be fire-rated assemblies or certified by the manufacturer as being equivalent to the required standard. Security hardware may be used on any fire-rated door.

**Guideline:** The first sentence of this Section provides that cell or room doors which open into required exit corridors need not comply with Section 1004.3.4.3.2.1; that is, they are not required to be 20-minute rated assemblies nor are they required to be smoke tight.

Doors that are required to be 45-minute or higher shall be fire rated assemblies or shall be certified by the manufacturer as being equivalent to the fire rated assembly. Certification of assemblies can generally be obtained through the fire door supplier/manufacturer.

Security hardware can be used on any fire rated door since this type of hardware is considered by the State Fire Marshal to be equivalent to the hardware otherwise required on fire rated assemblies.

**332A.2 Cell Door Width.** Cell doorways shall not be less than 24 inches (610mm) in clear width and 6 feet (1829mm) in height.

EXCEPTION: For accessibility requirements, refer to Chapters 11A through 11C.

**Guideline:** The 24 inches in clear width and 6 feet in height permitted by this section applies only to cell doors. This section does not apply to doors from dormitories or other occupancies within the restraint area.

**332A.3 Sliding Doors in Detention or Correctional Facilities.** Electrically controlled or other powered sliding doors may be used as exit doors regardless of occupant load served. Such doors shall be designed to allow for manual operation by staff in event of power failure.

Sliding doors which open onto an exit corridor within a cell complex need not comply with Section 1004.3.4.3.2.1.

**Guideline:** Sliding doors may be used as exit doors any place within a detention facility regardless of occupant load. If the doors are powered, they shall be equipped for manual operation. The required manual operation of such doors must be a reasonable procedure. For example, the manual locking/unlocking process must be one that all security personnel can easily use during an emergency. Locks that cannot be easily reached or must be operated by special tools shall not be acceptable. Sliding doors opening into exit corridors need not be 20-minute fire rate or smoke tight as required by Section 1004.3.4.3.2.1.

**332A.4 Dead-end Balconies.** Exit balconies serving cell tiers shall not extend more than 50 feet (15240mm) beyond an exit stairway.

**332A.5 Electrical Controlled or Other Powered Exit Doors.** All exit doors and doors from cells and holding rooms shall be capable of remote release from the facility control center.

**EXCEPTIONS:**

1. Emergency exit doors opening directly to the exterior of the building.
2. Exit-access doors and doors in cells and holding rooms in court holding facilities.
3. Exit-access doors and doors in cells and holding rooms in 24-hour or less booking areas.
4. Exit-access doors and doors in cells and holding rooms in housing areas where there is constant and simultaneous visual supervision by staff of cell doors and day areas at a central control area.

**Guideline:** Remote release of exit doors from only cells and holding rooms is only required when such doors are electrically controlled or otherwise powered. Remote release does not apply to exterior exit doors, cells or holding rooms in court holding facilities, 24 hours or less booking areas and in areas where there is constant visual supervision by staff.

## **SECTION 333A – FENCED ENCLOSURES**

**333A.1** Exterior fenced enclosures and fenced enclosures utilized for recreational or activity purposes into which exits from a building or buildings terminate shall be provided with a safe dispersal area located not less than 50 feet (15240mm) from any building. Dispersal areas shall be based on an area of not less than 3 square feet (0.28m<sup>2</sup>) per occupant. An exit gate shall be provided from the safe dispersal area to allow for necessary relocation of occupants.

**Guideline:** When inmates can exit to an area which is at least 50 feet from the building, the State Fire Marshal considers them to be in an area of safe refuge. Any fenced area of safe refuge shall provide not less than 3 square feet per occupant and shall have at least one exit gate to provided for relocation of occupants. This section applies only to fenced enclosures where an area of safe refuge is provided.

**333A.2** Exterior fenced enclosures and fenced enclosures utilized for recreational or activity purposes, used for exit termination for more than 20 persons, and which do not provide a safe dispersal area, shall have not less than two exits.

**Guideline:** Exterior fenced enclosures and fenced enclosures used for recreational or activity purposes by more than 20 persons shall have not less than two exits. This section applies only to enclosures used for exit termination and that do not provide a safe dispersal area (safe refuge) as described in Section 33A.1.

**333A.3** Fenced enclosure utilized for recreational or activity purposes only for more than 49 people, and which do not provide a safe dispersal area, shall be provided with not less than two exits.

**Guideline:** Fenced enclosures used for recreational or activity only shall have not less than two exits. This section only applies when the area is used by more than 49 people, and a safe dispersal area, as described in Section 333A.1 is not provided.

**333A.4** Fenced enclosures located on roofs of buildings one or more stories in height shall be provided with not less than two exits regardless of occupant load.



**APPENDIX – ‘B’  
I-2 OCCUPANCIES**

## **I-2**

Some detention facilities may be classified as Group I, Division 2 Occupancies under the California Building Code (CBC). Detention facilities included in this category generally are limited to adult and juvenile facilities where the occupants are not restrained (i.e. locked in the building or restrained in some other manner). Fire and life safety standards are not as stringent in Group I-2 Occupancies as in those where occupants are restrained.

The following guidelines will only address those Group I-2 standards which relate to detention facilities.

### **CONSTRUCTION**

Group I-2 Occupancies must be of at least one-hour fire resistive (Table 5B) construction except as follows:

#### **CBC Section 308.21, Exception 5:**

Buildings housing protective social-care homes or facilities and classified as Group I, Division 2 Occupancies, or in occupancies housing inmates who are not restrained need not be of one-hour fire-resistive construction when not more than two stories in height. In no case shall individual floor areas exceed 3,000 square feet (279 m<sup>2</sup>). The fire-resistive protection of exterior walls shall not be less than one-hour where such walls are located within 3 feet (914 mm) of the property line. Openings within such walls are not permitted. Openings in exterior non-rated walls need not be protected.

**Guideline:** This exception provides that fire-resistive construction is not required when buildings are not more than two stories in height. However, to utilize this exception, undivided floor areas must not exceed 3000 sq. ft. in area. Buildings may be divided into 3000 sq. ft. segments by two-hour fire-resistance area separation walls.

### **CBC SECTION 508 – FIRE-RESISTIVE SUBSTITUTION**

When an approved automatic sprinkler system is not required throughout a building by other sections of this code, it may be used in a building of Type II One-hour, Type III One-hour and Type V One-hour construction to substitute for the one-hour fire-resistive construction. Such substitution shall not waive or reduce the required fire-resistive construction for:

1. Occupancy separations (Section 302.3)
2. Exterior wall protection due to proximity of property lines (Section 503.2)
3. Area separations (Section 504.6).
4. Dwelling unit separations (Section 310.2.2)
5. Shaft enclosures (Section 711).
6. Corridors (Sections 1004.3.4.3.1 and 1004.3.4.3.2).
7. Stair enclosures (Section 1005.3.3).
8. Exit passageways (Section 1005.3.4).
9. Type of construction separation (Section 601.1).
10. Boiler, central heating plant or hot-water supply boiler room enclosures (Section 302.5).

**Guideline:** When one-hour fire-resistive construction is required, an automatic sprinkler system may be used as an alternate (or substitute) to the one-hour fire-resistive construction in Type II, III, and V buildings.

## **AUTOMATIC SPRINKLERS**

**308.7.1 [For SFM] Automatic sprinkler systems.** The provisions of this subsection shall apply to every person, firm or corporation establishing, maintaining or operating a hospital, children's home, children's nursery or institution, or a home or institution for the care of aged or senile persons, or any sanitariums or institution for insane or mentally retarded persons and any nursing or institution for insane or mentally retarded persons and any nursing or convalescent home, and to any state-owned or state-occupied building used for any of the types of facilities specified herein. Every facility as specified herein wherein more than six guests or patients are housed or cared for on the premises on a 24-hour-per-day basis, shall have installed and maintained in an operable condition in every building or portion thereof where guests or patients are housed, an automatic sprinkler system of a type approved by the State Fire Marshal.

### **EXCEPTION:**

...4. In detention facilities where inmates are not restrained.

**Guidelines:** Although there is a basic requirement that Group I, Division 2 Occupancies be protected by automatic sprinklers, exception 4 provides that facilities where inmates are not restrained, automatic sprinklers are not required. However, automatic sprinklers may be used as a substitute for required one-hour fire-resistive construction.

## **FIRE ALARM**

**308.9 Fire Alarm Systems.** An approved manual and automatic fire alarm system shall be provided for Group I, Division 1.1, 1.2 and 2 Occupancies. Audible alarm devices shall be used in non-patient areas. Visible alarm devices may be used in lieu of audible devices in patient-occupied areas. For installation requirements, see the *California* Fire Code. In Group I, Division 1.1 Occupancies, audible devices placed in patient areas shall be only chimes or similar sounding devices for alerting staff.

In occupancies housing non-ambulatory persons in occupancies in which restraint is practiced, staff and attendants shall be provided and housed or located in such a manner that such supervisory personnel will also be alerted upon activation of any detector required by this section.

When an entire facility is used for the housing of persons, none of whom are physically or mentally handicapped or non-ambulatory, and are between the ages of 18 and 64, the buildings or structures comprising such facility shall be exempt from the provisions of this subsection relating to the installation of an automatic fire alarm system.

Every building in a protective social care home or facility in which there is housed one or more hearing impaired persons shall be provided with a device acceptable to the

enforcing agency designed to alert such persons in the event of fire emergency. Signaling devices required by this section shall be located in the room or area used by such persons for sleeping purposes and shall be activated by the fire alarm system when such system is provided. A person will be considered hearing-impaired if a physician certifies in writing to the facility operator that the individual cannot respond to an audible alarm.

All local detention facilities within the scope of Section 6031.4 of the Penal Code shall have a state fire marshal-approved and listed automatic fire alarm system which responds to the products of combustion other than heat.

EXCEPTION: Heat detectors may be used in closets, unusable space under floor areas, storage rooms, bathrooms, attached garages, attics, kitchens, laundry rooms and rooms of similar use.

A manual fire alarm-initiating device shall be installed in all guard control stations and shall be capable of alerting personnel in a central control point to the presence of fire or smoke within the facility.

**Guideline:** The highlighted code section provides that an automatic fire alarm system must be provided in all detention facilities which are classified s Group I-2.

***Note that the last paragraph of Section 308.9 provides that a manual fire alarm initiating devices (manual fire alarm system) must be installed in all guard control stations to alert personnel to the presence of fire or smoke. It is important to note the code does not require that inmates be alerted to the presence of fire or smoke.***

## **EXITS**

**Guideline:** Exits shall be provided and maintained in accordance with Chapter 10 CBC.

**APPENDIX – ‘C’**  
**ADDITIONAL COMMONLY USED CODE SECTION**

## **SECTION 308 – REQUIREMENTS FOR GROUP I OCCUPANCIES**

**308.8.1 For SFM Safety padding.** *Padding material used on walls, floors and ceilings in Group I Occupancies shall be of an approved type tested in accordance with the procedures established by State Fire Marshal Standard 12-8-100, Room Fire Test for Wall and Ceiling Materials, Part 12, Title 24, California Code of Regulations.*

**Guideline:** At printing time the following were the only approved cell paddings: Marathon Engineering and Padded Surfaces by B & E.

**308.2.2.2 Group I, Division 3 Occupancies.** Group I, division 3 Occupancies shall be housed in buildings of type I or Type II-F.R. construction.

EXCEPTION: Such occupancies may be housed in one-story buildings of Type II One-hour, Type III One-hour or Type V One-hour construction provided the floor area does not exceed 3,900 square feet (362 m<sup>2</sup>) *[for SFM] 5,2000 square feet (483 m<sup>2</sup>)* between separation walls of two-hour fire-resistive construction with openings protected by fire assemblies having one- and one-half-hour fire-protection rating.

## **SECTION 503 – ALLOWABLE AREA INCREASES**

**505.3 AUTOMATIC SPRINKLER SYSTEMS.** The areas specified in Table 5-B and Section 504.2 may be tripled in one-story buildings and doubled in buildings of more than one story if the building is provided with an approved automatic sprinkler system throughout. The area increase permitted in this section may be compounded with that specified in Section 505.1.1, 505.1.2 or 505.1.3. The increase permitted in this section shall not apply when automatic sprinkler systems are installed under the following provisions.

1. Section 506 for an increase in allowable number of stories.
2. Section 904.2.6.1 for Group H, Division 1 and 2 *[for SFM]* and 8 Occupancies.
3. Substitution for one-hour fire-resistive construction pursuant to Section 508.
4. Section 402, Atria.

## **SECTION 508 – FIRE RESISTIVE SUBSTITUTION**

When an approved automatic sprinkler system is not required throughout a building by other sections of this code, it may be used in a building of Type II One-hour, Type III One-hour and Type V One-hour construction to substitute for the one-hour fire-resistive construction. Such substitution shall not waive or reduce the required fire-resistive construction for:

1. Occupancy separations (Section 302.3)
2. Exterior wall protection due to proximity of property lines (Section 503.2)
3. Area separations (Section 504.6)
4. Dwelling unit separations (Section 310.2.2)
5. Shaft enclosures (Section 711)
6. Corridors (1004.3.4.3.1 and 1004.3.4.3.2)
7. Stair enclosures (Section 1005.3.3)
8. Exit passageways (Section 1005.3.4)
9. Type of construction separation (Section 601.1)
10. Boiler, central heating plant or hot-water supply boiler room enclosures (Section 302.5)

**TABLE 5-B-BASIC ALLOWABLE BUILDING HEIGHTS AND  
BASIC ALLOWABLE FLOOR AREA  
FOR BUILDINGS ONE STORY IN HEIGHT<sup>1</sup>**

(This table notes I-1, I-2, I-3, R-1 and R-3 Occupancies only)

		TYPES OF CONSTRUCTION								
		I	II			III		IV	V	
		F.R.	F.R.	One-hour	N	One-hour	N	H.T.	One-hour	N
		Maximum Height (feet)								
		UL	160	65	55	65	55	65	50	40
Use Groups	Height/Area	Maximum Height (stories) and Maximum Area (sq. ft.)								
I-11	H	UL	3	1	NP	1	NP	1	1	NP
	A	UL	15,100	6,800	NP	6,800	NP	6,800	5,200	NP
I-2	H	UL	3	2	NP	2	NP	2	2	NP
	A	UL	15,100	6,800	NP	6,800	NP	6,800	5,200	NP
I-3	H	UL	2	NOT PERMITTED <sup>7</sup>						
	A	UL	15,100							
R-1	H	UL	12	4	2 <sup>9</sup>	4	2 <sup>9</sup>	4	3	2 <sup>9</sup>
	A	UL	29,900	13,500	9,100 <sup>9</sup>	13,500	9,100 <sup>9</sup>	13,500	10,500	6,000 <sup>9</sup>
R-3	H	UL	3	3	3	3	3	3	3	3
	A	UNLIMITED								

A-Building area in square feet  
H-Building height in number of stories  
H.T.-Heavy timber

N-No requirements for fire resistance  
F.R.-Fire resistive  
UL-Unlimited

<sup>7</sup>See Section 308.2.2.2

<sup>9</sup>For limitations and exceptions see Section 310.2

**(For additional occupancies and exceptions see California Building Code 1998 Table 5-B)**

**TABLE 9-A – STANDPIPE REQUIREMENTS**

<b>OCCUPANCY</b>	<b>NONSPRINKLERED BUILDING<sup>1</sup></b>		<b>SPRINKLERED BUILDING<sup>2,3</sup></b>	
	Standpipe Class	Hose Requirement	Standpipe Class	Hose Requirement
X 304.8 mm X 0.0929 for m <sup>2</sup>				
1. Occupancy exceeding 150 feet in height and more than one story.	III	Yes	I	No
2. Occupancies four stories or more but less than 150 feet in height, except Group R, Division 3 <sup>7</sup>	[I and II <sup>4</sup> ] (or III)	5 Yes	I	No
3. Group A Occupancies with occupant load exceeding 1,00 <sup>6</sup>	II	Yes	II	Yes
4. Group A, Division 2.1 Occupancies over 5,000 square feet in area used for exhibition	II	Yes	II	Yes
5. Groups I: H: B: S: M: F:, division 1 Occupancies less than 4 stories in height but greater than 20,000 square feet per floor <sup>7</sup>	II <sup>4</sup>	Yes	No requirement	No
Stages more than 1,000 square feet in area	II	No	III	No

<sup>1</sup>Except as otherwise specified in Item 4 of this table, Class II standpipes need not be provided in basements having an automatic fire-extinguishing system throughout.

<sup>2</sup>The standpipe system may be combined with the automatic sprinkler system.

<sup>3</sup>Portions of otherwise sprinklered buildings that are not protected by automatic sprinklers shall have Class II standpipes installed as required for the unsprinklered portions.

<sup>4</sup>In open structures where Class II standpipes may be damaged by freezing, the building official may authorize the use of Class I standpipes that are located as required for Class II standpipes.

<sup>5</sup>Hose is required for Class II standpipes only.

<sup>6</sup>For the purpose of this table, occupied roofs of parking structures shall be considered an additional story. In parking structures, a tier is a story.

<sup>7</sup>Class II standpipes need not be provided in assembly areas used solely for worship.



## **SECTION 709 – WALLS AND PARTITIONS**

### **706.6.3 THROUGH PENETRATIONS**

**Penetration fire stop system.** Penetrations shall be protected by an approved penetration fire stop system installed as tested in accordance with UBC standard 7-5 and shall have an F rating of not less than required rating of the wall penetrated.

## **SECTION 713 – FIRE RESISTIVE ASSEMBLIES FOR PROTECTION OF OPENINGS**

**713.10 Smoke Dampers.** Not less than Class II, 250°F (121°C) smoke dampers complying with approved recognized standards (see Chapter 35, Part IV) shall be installed and be accessible for inspection and servicing in the following ducted or unducted air openings at:

1. Penetrations of area or occupancy separation walls.
2. Penetrations of fire-resistive construction of horizontal exit walls or corridors serving a mean of egress.  
EXCEPTION: Openings for steel ducts penetrating the required fire-resistive construction of corridors are not required to have smoke dampers when such ducts are of not less than 0.019-inch (0.48mm) thickness (No. 26 galvanized sheet steel gauge) and have no openings serving the corridor.
3. Penetrations of shaft enclosures:  
EXCEPTION: Exhaust-only openings serving continuously operating fans and protected using the provisions of Chapter 9.
4. Penetrations of smoke barriers.
5. Penetrations of elevator lobbies required by Section 403.7 or 1004.3.4.5.
6. Penetrations of areas of refuge.  
EXCEPTION: Ventilation systems specifically designed and protected to supply outside air to these areas during an emergency.

A smoke damper need not be provided when it can be demonstrated that the smoke damper is not essential to limit the passage of smoke under passive conditions and the proper function of a smoke-control system complying with Chapter 9 does not depend on the operation of the damper. Smoke dampers may be omitted at openings that must be maintained open for proper operation of a mechanical smoke-control system, provided that adequate protection against smoke migration, in the event of system failure, has been provided.

Smoke dampers shall be closed by actuation of a smoke detector installed in accordance with the Fire Code and one of the following applicable methods:

1. When a damper is installed within a duct, a smoke detector shall be installed in the duct within 5 feet (1524mm) of the damper with no air outlets or inlets between the detector and the damper. The detector shall be listed for the air velocity, temperature and humidity anticipated at the point where it is installed.
2. Where a damper is installed within an unducted opening in a wall, a spot-type detector listed for releasing service shall be installed within 5 feet (1524mm) horizontally of the damper.
3. Where a damper is installed in a ceiling, a spot-type detector listed for releasing service shall be installed on the ceiling within 5 feet (1524mm) of the damper.
4. Where a damper is installed in a corridor wall or ceiling, the damper may be controlled by a smoke-detection system installed in the corridor.
5. When a total-coverage smoke-detection system is provided within all areas served by an HVAC system, dampers may be controlled by the smoke-detection system.

**713.11 Fire Dampers.** Fire dampers complying with the requirements of approved recognized standards (see Chapter 35, Part IV) shall be installed and be accessible for inspection and servicing in the following ducted and unducted air openings at:

1. Penetrations through *[for SFM] smoke barriers of Group I, Division 1.1 Occupancies*, area separation walls or occupancy separations.
2. Penetrations of the fire-resistive construction of horizontal exit walls or corridors serving a means of egress.

EXCEPTION: Openings for steel ducts penetrating the required fire-resistive construction of corridors are not required to have dampers when such ducts are not less than 0.019-inch (0.48mm) thickness (No. 26 galvanized sheet steel gauge) and have no openings serving the corridor.

3. Penetrations of shaft enclosures.  
EXCEPTION 1. Duct penetrations by steel exhaust air subducts extending vertically upward at least 22 inches (559mm) above the top of the opening in a vented shaft where the airflow is upward. 2. Penetrations of a fire-resistive floor forming the base of a shaft enclosure may be protected by fire dampers listed for installation in the horizontal position.
4. Penetrations of the ceiling of fire-resistive floor-ceiling or roof-ceiling assemblies.
5. Penetrations of an atrium enclosure element.
6. Penetrations of the building exterior required to have protected openings by Section 503.
7. Penetrations of areas of refuge.

EXCEPTION: Ventilation systems specifically designed and protected to supply outside air to these areas during an emergency.

A fire damper is not required where fire tests have demonstrated that fire dampers are not required to maintain the fire resistance of the construction.

## **SECTION 804 – MAXIMUM ALLOWABLE FLAME SPREAD**

**804.1 General.** The maximum flame-spread class of finish materials used on interior walls and ceilings shall not exceed that set forth in Table 8-B.

**EXCEPTION:**

1. Except in Group I Occupancies and in enclosed vertical exits, Class III may be used in other means of egress and rooms as wainscoting extending not more than 48 inches (1219mm) above the floor and for tack and bulletin boards covering not more than 5 percent of the gross wall area of the room.
2. When a sprinkler system complying with UBC standard 9-1 or 9-3 is provided, the flame spread classification rating may be reduced one classification but in no case shall materials having a classification greater than Class III be used.
3. The exposed faces of Type IV-H.T., structural members, and Type IV-H.T., decking and planking, where otherwise permissible under this code, are excluded from flame-spread requirements.

**TABLE 8-A FLAME-SPREAD CLASSIFICATION**

<b>MATERIAL QUALIFIED BY:</b>	
<b>Class</b>	<b>Flame-Spread Index</b>
I	0-25
II	26-75
III	76-200

**TABLE 8-B MAXIMUM FLAME-SPREAD CLASS<sup>1</sup>**

<b>OCCUPANCY GROUP</b>	<b>ENCLOSED VERTICAL EXIT WAYS</b>	<b>OTHER EXITWAYS<sup>2</sup></b>	<b>ROOMS OR AREAS</b>
A	I	II	II <sup>3</sup>
B	I	II	III
E	I	II	III
F	II	III	III
H	I	II	III <sup>4</sup>
I-1.1, 1-1.2, I-2	I	I <sup>5</sup>	II <sup>6</sup>
I-3	I	I <sup>5</sup>	I <sup>6</sup>
M	I	II	III
R-1	I	II	III
R-3	III	III	III <sup>7</sup>
S-1, S-2	II	II	III
S-3, S-4, S-5	I	II	III
U	NO RESTRICTIONS		

<sup>1</sup>Foam plastics shall comply with the requirements specified in Section 2602. Carpeting on ceilings and textile wall coverings shall comply with the requirements specified in Section 804.2 and 805, respectively.

<sup>2</sup>Finish classification is not applicable to interior walls and ceilings of exterior exit balconies.

<sup>3</sup>In Group A, Division 3 and 4 Occupancies, Class III may be used.

<sup>4</sup>Over two stories shall be of Class II

<sup>5</sup>In Group I, Division 2 and 3 Occupancies, Class II may be used.

<sup>6</sup>Class III may be used in administrative spaces.

<sup>7</sup>Flame-spread provisions are not applicable to kitchens and bathrooms of Group R, Division 3 Occupancies.

## **SECTION 608 – SHUTOFF FOR SMOKE CONTROL**

Air-moving systems supplying air in excess of 2,000 cubic feet per minute (940L/s) to enclosed spaces within buildings shall be equipped with an automatic shutoff. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the main supply-air duct served by such equipment. Smoke detectors *[for SFM] which will detect products of combustion other than heat and which comply with the California Building Code*, shall be labeled by an approved agency for air-duct installation and shall be installed in accordance with the manufacturer's installation instructions. Such devices shall be compatible with the operating velocities, pressures, temperatures and humidity of the system. Where fire detection or alarm systems are provided for the building, the smoke detectors required by this section shall be supervised by such systems *[for SFM]* and shall activate the fire alarm system.

### **EXCEPTION:**

1. When the space supplied by the air-moving equipment is served by a total coverage smoke-detection system complying with UFC Standard 10-2, interconnection to such system may be used to accomplish the required shutoff.
2. Automatic shutoff is not required when all occupied rooms served by the air-handling equipment have direct exit to the exterior and the travel distance does not exceed 100 feet (30.4m).
3. Automatic shutoff is not required for Group R, Division 3 and Group U Occupancies.
4. Automatic shutoff is not required for approved smoke-control systems or where analysis demonstrates shutoff would create a greater hazard, such as may be encountered in air-moving equipment supplying specialized portions of H.

**Group H Occupancies.** Such equipment shall be required to have smoke detection with remote indication and manual shutoff capability at an approved location.

<b>TITLE 24, PART 1 CHAPTER 3, ARTICLE 1</b>
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**SECTION 13-102 [c] 6 – DESIGN REQUIREMENTS**

**13-102 [c] 6 B[2]) [g]** Fire sprinkler heads inside rooms shall be designed to prevent attachment.

**Guideline:** This code section requires that automatic sprinkler heads designed to prevent attachment be installed in rooms where inmates may be left unsupervised for example, sleeping rooms, restrooms, safety cells, temporary holding cells, detoxification cells, and any other rooms of similar use.

<b>TITLE 24 PART 2, DIVISION VIII 470A LOCAL DETENTION FACILITIES</b>
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**SECTION 470A.1 DEFINITIONS**

**Rated Capacity** means the number of inmate occupants for which a facility's single and double occupancy cells or dormitories, except those dedicated for medical or disciplinary isolation housing, were planned and designed in conformity to the standards and requirements contained herein and in Title 15, CCR.

**SECTION 470A.2 DESIGN CRITERIA FOR REQUIRED SPACES**

- 470A.2.1** Reception and booking.
- 470A.2.2** Temporary holding cell or room.
- 470A.2.3** Temporary staging cell or room.
- 470A.2.4** Detoxification cell.
- 470A.2.5** Safety cell.
- 470A.2.6** Single-occupancy cell.
- 470A.2.7** Double-occupancy cell.
- 470A.2.8** Dormitories.

**Guideline:** In determining the occupant load for I-3 (local detention facilities) the Board of Corrections regulations, noted above, and standards are more restrictive than those of the Uniform Building Code and/or California Building Code. Therefore, occupant load at such facilities will be determined by the Board of Corrections criteria.

## **Fire and Life Safety Inspections & Fire Suppression Preplanning**

This paper has been prepared for the purpose of illustrating and clarifying the differences between the annual FIRE AND LIFE SAFETY INSPECTIONS and FIRE SUPPRESSION PREPLANNING as required by state law.

### **Fire and life safety inspections (Health and Safety Code Section 13146.1)**

Health and Safety Code (H & SC) Section 13146.1 was enacted by the Legislature for the purpose of improving fire and life safety in jails and places of detention by requiring that a fire and life safety inspection be conducted at least on an annual basis. The law provides as follows:

1. The State Fire Marshal (SFM) is required to inspect, at least annually, every jail or other place of detention for persons charged with or convicted of a crime, unless the chief of the fire department or his authorized representative indicates in writing that the chief or his authorized representative will conduct the required inspection.
2. The inspections are to be made for the purpose of enforcing the SFM's regulations adopted pursuant to H & SC Section 13143 and minimum fire and life safety standards adopted by the Board of Corrections pursuant to Penal Code Section 6030.
3. Reports of the inspections must be submitted to the official in charge of the facility, the local governing body, the SFM, and the BOC within 30 days of the inspections.

These annual inspections are for the purpose of ensuring that jails and other detention facilities are in compliance with the SFM's regulations (Titles 19 & 24) and that operations are consistent with good fire prevention practices. During their annual inspection, fire marshals and fire inspectors assure that:

- building construction is of the proper fire-resistive rating and is in good repair;
- means of egress are unobstructed and free of storage;
- provisions have been made to remove occupants in the event of fire or other emergency;
- exit ways are illuminated and maintained;
- emergency power is provided;
- good housekeeping prevails;
- the fire alarm system (automatic and manual) is properly maintained;
- fire drills are conducted periodically, and;
- there exists a fire suppression preplan made in conjunction with the local fire department.

This is not intended to be a complete list of items reviewed during a typical fire safety inspection, but rather a representative example.

## **Fire suppression preplanning inspections by the local fire department (Penal Code Section 6031.1)**

Penal Code Section 6031.1 requires a fire suppression preplanning inspection. However, the term “inspection” is misleading because a fire suppression preplan (FSP) is a plan developed to aid a fire department in effectively controlling a fire or other emergency. It is important because it increases the potential for saving lives and property. In simple terms, fire suppression preplanning ensures that responding emergency personnel know as much as possible about a facility’s construction, occupancy, and fire protection systems before an incident occurs.

Life safety considerations should be the first priority in FSP. The location of fire department connections, building entrances and exits, corridors, stairs and other travel paths can be extremely valuable information in developing fire suppression strategy or directing rescue.

The burden of a successful FSP does not rest with the fire department alone. It requires open communication between facility management and the fire department, and perhaps, other agencies such as police and public utilities. A fire suppression preplanning session should not be for the purpose of identifying code violations. Facility management must take a coordinating role in the FSP and be willing to host a joint meeting of all entities involved.

In addition, Sections 1032 (adult) and 1325 (juvenile) of Title 15 provides that the FSP:

- be included as a part of the facilities manual of policy and procedure;
- include fire prevention inspections by facility staff on a monthly basis with a two year retention of the inspection record;
- include an evacuation plan and a plan for emergency housing of inmates in the event of fire.

To summarize, the annual fire and life safety inspection and fire suppression preplanning are two separate, but related activities. Annual inspections are conducted to assure compliance to State Fire Marshal and Board of Corrections regulations. State or local inspectors perform this function by walking through a detention facility and comparing the conditions on site to the requirements in regulations.

A fire suppression preplan assumes an incident will occur and provides the opportunity to facility staff and emergency personnel to prepare for fire or other emergency, regardless of the likelihood. This is done by bringing the effected agencies together to plan what each agency is to do in the event that a fire or other emergency occurs.

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